

# MICROFLUIDIC CONTROL USING DIELECTRIC PUMPING

## RELATED APPLICATIONS

[0001] This application is a Continuation-In-Part application of non-provisional U.S. Serial No. (to be assigned), entitled "Microfluidic Control For Waveguide Optical Switches, Variable Attenuators, And Other Optical Devices", inventors Anthony J. Ticknor, John T. Kenney, Giacomo Vacca, Dudley A. Saville, and Ken G. Purchase, filed February 27, 2002, and this application claims the benefit of priority to provisional U.S. Application Serial No. (to be assigned), entitled "Microfluidic Control For Waveguide Optical Switches, Variable Attenuators, And Other Optical Devices", inventors Anthony J. Ticknor, John T. Kenney, Giacomo Vacca, Dudley A. Saville, and Ken G. Purchase, filed February 27, 2002, and to provisional U.S. Application Serial No. 60/272,337, filed February 28, 2001. The disclosure of each of these applications is incorporated by reference for all purposes, as if fully put forth below. This application also incorporates by reference for all purposes, as if fully put forth below, the PCT application filed on even date herewith, entitled "Microfluidic Control Using Dielectric Pumping", inventors Giacomo Vacca, John T. Kenney, and Dudley A. Saville. The disclosure of PCT/US02/06325 is also incorporated by reference for all purposes, as if fully put forth below.

claims benefit of  
foreign priority  
to application  
PCT/US02/06325

## TECHNICAL FIELD

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[0002] This invention relates to the field of fluid movement and microfluidics by providing a new way to move fluids within channels, particularly small volumes of fluids through microchannels.

## BACKGROUND OF THE INVENTION

[0003] Microfluidic devices have been and continue to be developed for use in a number of fields. For instance, microfluidic devices are being developed for use in medical diagnostics, in which a volume of sample from a patient (such as a droplet of blood) is processed within a microfluidic device. The sample and/or other small volumes of fluids containing analytes are moved from reservoirs or other receiving chambers through microchannels to one or more reaction or association chambers to determine